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ABSTRACT

Little is known about the costs of setting up and implementing legislated minimal competency testing (MCT). To estimate the financial obstacles which lie between the idea and its implementation, MCT requirements are viewed from two perspectives. The first, government regulation, views legislated minimal competency requirements as an attempt by the state to regulate the school district. Regulatory actions may increase operating costs for regulatees (school districts). Costs are organized in these categories: legislation; implementation; excess burdens thrust upon schools from compliance with regulations (such as remedial instruction); restriction of desirable elements from the curriculum; and neglect of music, arts, humanities, and citizenship. The second perspective, cost benefit, presents a problem because benefits such as increased employability of students are almost impossible to measure. However, costs which have been estimated include test development, administration, state monitoring, and remediation programs. To make testing programs cost-effective, the following recommendations seem appropriate: (1) the state rather than local agencies should administer the programs; (2) testing should not focus on the individual student; (3) cooperatives should be established to share tests; (4) test results should be reported publicly; (5) school districts should be rewarded for high performance; (6) financial inequities should be reduced; and (7) federally run testing should be discouraged. Descriptions of MCT programs by state are included. (CP)

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The Costs of Legislated Minimal Competency Requirements

by

Barry D. Anderson

Washington University, St. Louis

A background paper prepared for the Minimal Competency Workshops sponsored by the Education Commission of the States and the National Institute of Education.

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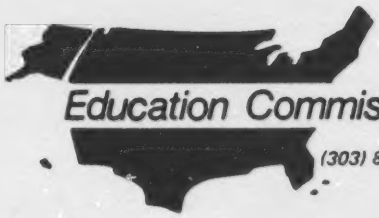

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"State by state, school district by school district, the pressure is mounting for someone to do something about both the assumed and the real dwindling school academic standards." (Pipho, 1977a).

"...the back-to-the basics movement is today's media event. Journals and newspapers, ever on the alert for the "significant," have been making a good deal of the fact that, among the dozens of pressures always bearing on the schools, one of the more urgent these days is the demand for improved skill in the basics." (Elam. 1977).

I. Introduction

By June 1 of 1977, 24 states had introduced 24 bills relating to education in the basics and minimal competencies. In addition, interest has developed at the federal level. H.R. 6088 and H.R. 7116 contain elements which would have state agencies create proficiency-based high school graduation requirements before they could receive funds under the Elementary and Secondary Education Act of 1965. (Pipho, 1977b).

Presumably this interest in miminal competencies arose because the academic performance of students has deteriorated, or at least because the public perceives deteriorating performance on the part of students who have graduated from high school.[1] Many things have contributed to this awareness -- lawsuits in which ill-prepared students seek redress from the schools in which they were taught, concern from the poor, and well-publicized criticisms of schools' inability to alter student outcomes. Whatever the causes, public interest, or at least legislative interest, is high. Table 1 (from Pipho, 1977b) shows just how quickly state legislatures and departments

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of education have been moving to implement some sort of competency requirements in their schools.

This public and legislative interest is complemented by the interest in competencies, behavioral objectives, and outcomes measurement which has become common in public education. (Clark and Tomson, 1976). The two forces together make the use of minimal competency testing programs politically feasible. However, little attention has been paid to the possibility that this sort of legislation will increase the cost of public education.

The purpose of this paper is to report the results of a preliminary reconnaissance into what looks to be uncharted territory. It yields a map of the location of costs that are apt to be associated with a program of testing for minimal competencies. For some locations on the map I have been able to provide estimates of the size of the financial obstacles that lie between the idea of a testing program and its implementation.

Two perspectives on the problem of cost have been taken. The first is to view legislated minimal competency programs as an instance of government regulation. This leads to an outline of the way in which regulatory actions may increase the costs of operation for regulatees. While most of the literature in this area deals with the regulation of private enterprise by government, the types of costs seem to be analogous. The major weakness in using this approach is that there are few cost figures available for insertion into the paradigm.

The second perspective that appears is a cost-benefit approach. Here, the problem is that benefits are almost impossible to measure in economic terms, so one is forced to adopt a study program focussed almost entirely on the cost of a testing program.

Neither approach fits very well the political environment in which minimal competencies are being legislated at such a rapid rate, but more of that later in the paper.

II. Minimal Competencies as Government Regulation

One way to view the current spate of legislation and regulation about minimum competencies is as an instance of government regulation. In this case, we see an attempt by one unit of government (the state) to regulate the activity of another (the local school or school district). Much has been written about the hidden costs such regulatory efforts bring to private enterprise, and legislators need to be aware of the possibility that they may cause cost increases in the public sector by attempting to regulate performance.

Basically, the current legislation is aimed at providing some sort of test, either at the state or local level, passage of which will ensure that a student has mastered specified basic skills. The number of skills that are required varies from state to state, as do the number of grade levels at which testing is being required. Some of the current legislation is also connected to provision of compensatory education for those students who do not master skills deemed necessary for their adequate education. Table 2 presents a summary of the

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Insert Table 2 about here

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purposes of legislation as gleaned from Pipho (1977a).

Appendix I contains a table from Noonan and Rubin which will be helpful to persons interested in assessing what each of the state plans will do once, and if, they become operational.

McKean (1976) has provided an excellent typology which aids the detection of hidden costs associated with such regulatory efforts. It is reproduced here as Table 3. Using the major headings provided

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Insert Table 3 about here

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by McKean, I shall attempt to organize what seems to be known about the costs of legislated minimal competencies as the programs are currently being designed.

A. Set-up Costs of Legislation

No one to whom I spoke[2] mentioned this as a cost of programs of minimal competencies. Evidently, this is regarded as a sunken cost which need not be considered. In fact, however, it is likely that once such programs are introduced, the legislature or state department of education will become involved in an extended set of hearings, data collection and studies associated with the continued monitoring and evaluation of the legislation. In short, the legislation is apt to be the subject of continued modification and revision. These "set-up" costs are actually likely to be incurred on a continuing basis.

B. Implementation Costs

1. Information Costs to the Regulatory Agency in Deciding how to Implement the Law.

In the area of minimal competency testing these "information costs" could be quite substantial. For instance, if a state has proposed a minimum competency requirement linked to compensatory education (as has happened in Florida, New Jersey and Michigan, at least), then one needs to know how many students will pass or fail an examination so as to be able to make a correct estimate of the resources to allocate for compensatory work. This, in turn, calls for pilot testing of instruments and some sort of modelling of the financial impact of the proposed legislation. If this is done correctly, it will be expensive. If incorrectly done, the consequences could be even more expensive in the form of high costs for compensatory education and/or public outrage over "poor results" attained by the schools.[3]

2. Information Costs to Regulatees to Determine what is Required of them.

While publication of standards may be assumed to be sufficient information to guide local schools or school districts, in fact they will be required to spend time and money finding out what the tests will be like and how they can best prepare their students for an examination. Again, no one reported this as a cost, although it might be sub-sumed under the costs of dissemination and technical assistance which were reported by the state agencies.

In states such as Oregon, which delegate the responsibility for devising an acceptable (but unspecified) plan to local districts, heavy costs could be incurred as districts submitted and resubmitted "plans" in an endeavor to find out what the state will accept. A preliminary report from Oregon's Educational Co-ordinating Commission, noted that three Oregon districts had incurred direct costs ranging from $26,500 to $173,200 in attempting to meet Oregon's competency graduation requirements. (Nelson, 1977).

3. Administrative, Record-keeping, and Reporting Expenses to Regulatees.

In cases where the state administers tests, scores them, and reports results back to local districts, this cost is low. The only major cost is that associated with test administration where teacher time might properly be charged to the legislation.[4] However, some states like Oregon, have mandated that the local districts must devise a plan, have it approved by the state, and then attest to its success each year. This mode of operation, while responsive to the norm of decentralization and local control, will increase the costs associated with compliance as the local districts will either have to change or start testing, record-keeping and reporting systems.

4. Enforcement Costs to the Regulators.

Some sort of staff effort will have to be devoted to seeing whether or not the local districts are in compliance with the law. If passage of a state administered proficiency examination is all that is at issue, the enforcement or policing costs should be low. However, extremely expensive policing costs may be associated with the compensatory education programs that are being tied to minimal competency requirements. There is a long and dismal history of abortive attempts to direct funds to, and improve the performance of, the children who do not do well in school. McLaughlin's (1974) review of Title I efforts, and Stephens' (1967) review

of the effects of schooling provide eloquent statements of the probable difficulties associated with these compensatory programs. McLaughlin, in particular, indicates the amount of money which might be spent on unsuccessful efforts for political reasons. Yet the need for regulatory efforts is suggested by Barro (1972), who shows how categorical grants may wind up either as substitutes for local effort or as add-on components to local funding. Monitoring will be required to ensure that the compensatory education money is spent as intended, and not as a substitute for local effort or as a general budget supplement distributed to all students.

Even without these fairly obvious sources of add-on costs, there would remain the task of developing and administering state-wide tests. To do that requires some addition to, or realignment of, state education agency personnel. Usually, because of the technical nature of test construction and administration, staff must be added, although some states reported reassignment of existing personnel. Frequently, outside contractors may be required in order to provide sufficient technical expertise and personnel to start a testing program.

3. Avoidance Costs to Regulatees.

Some schools and/or school districts may choose not to conform to state requirements, in an honest belief that the standards are ill-conceived or damaging. In such cases, the protesting districts will incur legal and other costs which would not be needed had regulation not been attempted. The time, energy and effort being devoted to discussion of minimum competencies by school boards, teachers and their organizations, administrators and their organizations, journals and the like could, in theory, be spent elsewhere, and are costs attributable to the attempted regulation.

C. Excess Burdens from Compliance

These are the losses thrust upon schools by regulations. These include expansion of the administrative component of the school staff in order to manage a required program, time spent filling out forms and reporting information (one among several obvious parallels to the costs of implementation borne by the regulator, see Table 3, Section D), and increased risk of liability resulting from implementation of regulations.

Let me give one example of increased liability. Suppose that, in compliance with state regulations, a school district mandates a specified performance level on a test of minimum competencies. Suppose further that a disproportionate number of minority students fail the test (a likely outcome). Is the district sub-

ject to a suit based on the grounds that (a) the test is discriminatory? (b) the test is invalid and unreliable? (c) uncorrelated with anything other than performance in school and hence the test is irrelevant? or (d) the test is good and shows that school is not meeting its responsibility to kids? I think the answer to all four questions is yes, and that we may well see a number of lawsuits following hard on the heels of these newly implemented regulations. The suits will impose a cost on some local districts, even though the state "caused" the activity which resulted in the suit.[5]

D. Induced Neglect of Information

Under this category fall many of the complaints about competency based performance -- that it will force schools to restrict many desirable elements from the curriculum, that the interests of students will not be served, that development and progress in the curriculum will be impeded because of reliance on the "old standards" embodied in a test. Etzioni (1962) once pointed out that those things which were done in an organization were those things which were measured. The measurement of school inputs as a proxy for quality has taken schoolmen away from a consideration of outputs, for they often do not know what the children are learning. However, reliance on one set of tests selected in an intense political environment may not be helpful, and may distract "good" schools from important activity.

The erosion of citizen interest suggested by McKean is a serious problem. We should be wary of testing programs designed to keep the public quiet. We should also be wary of testing programs which promise to deliver more than is possible given the current "state of the testing art." Citizen involvement in the schools is one of the only ways to keep the schools responsive to the needs of society and it should not be lost through mis-use of testing programs.

E. Foregone Monitoring of Other Public Policies

The more effort that is put into monitoring minimal competencies, the less that is available for other areas. Since minimal competencies are usually defined as basic skills like reading, writing and arithmetic, large areas of the modern school's mission are left untended. Music, art, humanities and citizenship, are examples of curricular areas which do not lend themselves to simple competency examinations, yet these are important and legitimate concerns of the school.

The National Commission on the Reform of Secondary Education (1973 Recommendation 1) has pointed to the need to define the expectations for the secondary school. Again Etzioni's observation

is important, for competency examinations could, by themselves, define public expectations for schools in a very damaging and ultimately costly manner.

III. A Cost Benefit Perspective

A. Difficulties With the Perspective

Typically, a cost benefit analysis is used to try and justify the operation of programs. There is great difficulty in estimating cost benefit ratios before an experiment takes place because relevant data might not be available. In the case of minimal standards, for example, it might be argued that the standards, if met, will improve the employability of students who pass them, thus producing economic benefits to the society and to the student. On the other hand, one might argue that in a society where unemployment is running at 6 to 7 percent and is much higher than that among the young, what must be happening is that employers are selecting young employees from a queue. It is not clear that simply passing the minimum competency requirements proposed by any state would cause a significant rearrangement of the queue's elements, or its overall shortening. Under such constraints changing the economic conditions of youth by means of these testing programs seems optimistic. However, whether or not the programs produce benefits is an empirical question which has not yet been investigated properly.[6]

Economic theory, and common sense, suggest that one should not attempt to enforce a regulation unless the gain from doing so is greater than the cost of enforcement. If we assume that there is no easy way to measure the benefit of regulations about minimal competency requirements, then one way to go about increasing the probability that benefits will be greater than costs is to consider how costs of regulation might be kept to a minimum.

If we start with the assumption that the recent flurry of legislation indicates a public desire to improve the competencies of the nation's youth, and that some sort of assessment is needed in order to monitor progress to that goal, we can ask about the cheapest way to arrive at a population who possess the competencies.

At the outset we might ask if all people are to possess the competency. If one believes that everyone can master most things given enough time (and time is money), then it follows that the more people who must master a skill, the more it will cost society. Second, if one believes that some skills are most difficult to master than others, then one must allow that costs will rise with the difficulty of the skills required. I illustrate these two points in Figures 1 and 2.

It follows that one can control costs by demanding only simple skills or by reducing the percentage of people who must have the skills. Legislators will be forced to make these choices (see Conaway, 1977, pp. 19-20, for more on this issue), although they are apt to form a hidden agenda.

So far, it appears that the level of skill sought by most state departmemts of education is not met by between 15 and 40% of the students who are taking the tests. If these students are to be brought to mastery, then additional time, energy and money will have to be spent on those students.

The time and energy can be found two ways: add on to the regular school program by procedures like placing students in small classes enriched with materials, aides and the like; or spend more time on the targeted skills at the expense of other areas of the curriculum. Denver, by rationing instructional units to each school, forces the second approach. Attempts to mandate the size of compensatory education classes, force the first. As an alternative to finding more time and/or money, testing programs might be revised so that the criteria are more easily met and a larger percentage of students "pass" the examination. The danger involved in this approach is that minimum standards for performance, once established in a bureaucracy, tend to become the standard of performance. Thus, if minimal competencies are set too low, regulators run the risk of lowering the average achievement level of the general student population.

B. A Summary of Costs

So far, there is little that is obviously known about the costs of legislated minimal competencies. The telephone polling that I conducted to prepare this paper did turn up a few figures which began to make sense and to suggest that some parameters are known.

The costs which have been estimated to date may be divided into four areas: test development, test administration, development and maintenance of regulatory mechanisms, and possible add-on costs of compensatory programs. I'll briefly highlight each of these points and discuss some of their ramifications for policy-makers in the final section.

1. Test Development Costs.

Once use of a test has been decided upon, the agency administering the test must select one that does what is required by the regulations. In some cases this has meant adoption of existing standardized tests, meaning that development costs go to zero. In many cases, however, states and school districts have opted to devise their own tests. The cost of test development, which can be taken to mean writing of items,

testing them on small samples of students, revising them and providing "camera-ready copy" runs between $25 and $210 per item with the norm being about $100. Some tests, such as those used by the National Assessment of Educational Progress, may cost considerably more because of unusual item design.

The number of items required for a test is dependent on the number of criteria that the test is intended to measure, the number of items that one feels will reliably measure each criterion and the number of false positives and/or negatives one is willing to accept. (Conaway, 1977, Millman, 1973). In addition, since most states appear unwilling to wait until the last year of high school before assessing student progress, the number of items required must be multiplied by the number of grades in which measurement is to take place. If one assumes measurement will occur once at the elementary, junior high and high school (grades 6, 9 and 12, for instance) that ten criteria are to be measured (five each in reading and math), and that ten items are required to measure each criterion, then test development will run between $15,000 and $63,000. This is not a large sum, but nor is it a one-time expense -- tests must be revised yearly in order to keep them current, reasonably well protected from cheating, and free of defective items. The estimate is also probably low since the number of criteria to be measured is very small.

Estimates of development costs must also consider the uses to which tests are to be put. If they are to be used as the instruments by which individual students are passed or failed, then every effort will have to be made to ensure reliability and validity -- otherwise the test is apt to lead to lawsuits. This, in turn, means more extensive pilot tests, longer tests (more items per criterion, since more items increase reliability), and more expensive efforts to show that the tests really have some utility in the sense that the scores are meaningful. (Millman, 1973; Novick, et al., 1973; and Meskauskasi, 1976, provide more on the issue of test length, reliability, and validity.)

Because of these factors, I believe that development costs of $15,000 to $63,000 represent a <u>minimum</u> development cost for a district or state to develop its own test. Note, too, that the cost is incurred by the unit developing the test. If regulations demand that districts devise tests, then development costs of this order will be incurrred by every district in a state. In a state with 500 school districts, where development costs were averaging $100 per item, and tests were as long as those I suggested above, this would mean development would cost taxpayers about $15,000,000. Initially, at least, these costs would remain high -- the test would have to be

revised and modified. Over time I expect that co-operatives would appear, and these would have the capability to drive development costs down through sharing of validated items. The beginnings of such co-operatives already exist -- for example, the Instructional Objectives Exchange (IOX) in Los Angeles.

2. Test Administration.

Test administration costs showed much consistency from one state to another. Generally speaking, if the state itself does the work of printing, mailing, scoring and reporting results, the reported costs are between 50¢ and $1.55 per pupil for test administration. The Denver public schools reported an administration cost of 15¢ per pupil per administration. States using contractors for test administration reported costs running from just under one dollar per student to just over $13 per student. The latter figure is for a secure test -- one which is not supposed to fall into the hands of the student or his/her teachers. Security is required in the case of this test because it can be used to obtain a high school certificate. The vast majority of tests need not be so secure, and have administration costs running around $1.00 to $1.60 per student. Figures of this magnitude will not represent serious add-on costs to schools, but, if one-third of the nation's sixty million students are tested each year, the total add-on cost will be 20 - 32 million dollars. Also, these costs are for simple paper and pencil tests. Other tests, which require performance (e.g., writing or music) would cost much more to administer.

3. Development and Maintenance of Regulatory Mechanisms (Bureaucracies)

Establishment of state-wide competency requirements, even if they are to be developed at the local level and monitored by the state, means that some sort of testing, evaluation and monitoring system will have to be put in place at the state level. States reported much variation in the "bureaucratic costs" associated with their testing programs. It appears, however, that a state-wide testing program can be run from a state office with as few as three professionals using sub-contracts. The more active states reported nine or more professionals, with some sub-contracting. The expense of running the state offices ran from $65,000 to $945,000 yearly.

Whether these are all add-on costs is not clear. Certainly the expense of sub-contracts is likely an add-on, but staff positions may merely represent a rearrangement of state

positions for the purposes of assuming a new workload. However, these are not trivial costs, and, if Parkinson (1957) is correct, we can expect to see these newly formed bureaucratic units expanding at no less than about 6% per year. Regulatory agencies may thus be setting up a new element in a bureaucracy whose growth is already hard to control.

Those states which are demanding that something be done, but at the local level so as to preserve local control, may be multiplying the bureaucratic costs as well as development costs, since each local school district will have to develop a testing mechanism, as well as a means of reporting data back to the state. In addition, the state will have to devise a way of policing the local districts, and this could well be more difficult to manage than a testing program, as the tests, at least, are subject to the cost benefits of automation in printing, scoring and reporting of results. Paradoxically, the state may cause sharp cost increases to local districts quite beyond local control in the state's desire to preserve local control.

4. Compensatory Programs.

The great hidden cost in competency based programs lies in their connection to remedial work. Scanty evidence that I collected in my conversations suggests that fairly large numbers of students may be expected to fail the competency examinations. Particularly in those states where a student must pass the test before being allowed to graduate from high school or progress from one grade to the next, there will be very heavy pressure to provide remedial instruction. Furthermore, it is likely that the students most in need of remedial instruction, as a group, will be the urban poor -- the same people most likely to be in need of federal Title I funds aimed at assistance to the poor.

The amount of money needed for remedial work is extremely large. The state of Washington estimated that it would require between 43 and 47 million dollars for each of reading and math areas (i.e., 86 to 94 million dollars in total). New Jersey will see its bill for compensatory programs rise from 30 million in 1976-77, to 70 million in 1978-79. Michigan spends some 28 million dollars. A California report (1972) proposes five hundred million dollars for compensatory education in that state.

Why so much? For one thing, large numbers of students do not pass the tests. Florida estimates between 20 and 30% of the student body will qualify for remedial work. Over 50% did not meet locally set standards in some Arizona school districts during their first year of operation with competency

standards. About 40% of the students do not meet 40% of Michigan's objectives in reading, and another 40% do not meet 40% of the state's objectives in math. (The total is probably less than 80%, but more than 40% of the student body.)

Statistics such as these, preliminary and rough as they are, are reminiscent of the old saw about what happens when counseling services are improved in schools -- the number of children in need of counseling goes up. Clearly, we can expect these testing programs to reveal problems. Some provision for curing those problems must be made.

There are some options. Tests can be simplified so that more students "pass," thereby causing the problem to go away. Students could be paid to take the tests, thereby raising (probably) the scores of significant numbers of students. Remedial aid could be directed to the students who need it, and so forth. For each of these options, there will be some sort of cost. Legislators need to keep that in mind as they write their regulations.

IV. Recommendations

The phrasing of existing and/or pending regulations varies from state to state. However, each state seems to be intent on ensuring that students be capable of demonstrating that they are capable of functioning in the society. The student does not appear to be the real target of the legislation. The target appears to be the school district or school in which the student was taught. The rules that are being promulgated are designed to improve the performance of schools, and through their improved performance, the performance of their pupils.

With that idea as a basic point of reference, and under the assumptions that the possession of minimal competencies by a large proportion of students is a good thing, that tests can be used to tell us whether or not students possess those competencies, and that regulators will continue to consider imposition of minimum standards on students and schools, the following recommendations seem appropriate as a means of making testing programs more cost-effective.

A. The most cost-effective testing program would be a state-wide assessment, using samples of schools. Probably all the students in a given school and grade level would be included in the testing program.

   A state-wide program is more effective than locally run programs because development, administration and regulatory costs are spread over a larger base and can take advantage of economies of scale.

The usual criticism of state-wide programs is that they ignore local concerns. As there is not much room for variation once one has restricted oneself to basics like reading and mathematics, and since some "local" districts have much more variation than some states (New York City vs. Wyoming, for example), it seems unnecessary to decentralize the testing program. Local districts might be free to design their own add-on programs if they so desired.

A more important objection to this recommendation is that it will not permit much work to be done with individual students. If this is true -- diagnostic work for individuals will be impossible, except for those students who are tested. For a relatively modest cost in the form of data collection (about $1.00 to $1.60 per pupil per test) and a heavy cost in terms of information retrieval systems, a state could choose to provide a student by student record of achievement over time.

Lack of diagnostic capability is a problem, but not a serious one given the present state of test development. At the present time, tests are not sufficient as a means of diagnosing individual student problems. Indeed, their possible mis-use in this fashion represents one of the great dangers in competency testing.

A one-third sample of schools, as is done in Pennsylvania's Educational Quality Assessment Program, seems to be a simple, cost effective means of providing information about the overall quality of a school's program. A three-year cycle of testing also seems to be a reasonable way to allow schools to adjust and plan on the basis of test scores provided in an early evaluation.

B. The focus of the test should not be the individual student. To use the student as the focus of a test is to invite many hidden costs. Lawsuits initiated by "failed" students are certain to appear. To offset the possibility that these will be successful, the tests will have to undergo heavy development costs. They will have to be longer, and will be able to thoroughly test fewer competencies. Even with all of these things done, it is unlikely that using the student as the focus of the testing program will materially improve the general level of skill in the basics. Even in a task such as walking, some people do not achieve mastery, despite much effort and investment.

It is necessary to make the child the focus of testing programs if one wishes to use the test as a means of assigning students for remediation and/or assigning compensatory education funds to schools. It seems improbable that a large scale, economical testing program could do more than provide very sketchy diagnostic data. In order for diagnostic work to be done properly much more detailed tests would be required. As for the assignment of compensatory education

money, there is reason to consider its abolition at least in its current form. But more of that later.

C. State education departments should move immediately to establish co-operatives which could share tests and test items. The National Institute of Education could well be asked to assist in this venture. This could help drive down development costs.

D. There should be public reporting of test results at the school level. Presumably this would provide one incentive for schools to review their allocations of resources if their scores were very low. This has the added advantage of reducing the error of estimate in the test results -- a test is much more accurate as a statement of group performance than it is as a means of measure of an individual's performance. Using the school as the unit of reporting would also speed the decentralization of management of instruction to the school, as has long been seen as a useful step by school administrators. (Pierce, 1977).

Also, decentralization to the school level would probably hasten the realignment of priorities and personnel within school systems. Thomas and Larson (1976), for example, report fairly large increases in the percentages of staff assigned to administrative and staff roles in schools, and comparatively small increases in the number of people being assigned to teaching positions. Would a school principal, faced with poor test scores for his school, continue to assign personnel in the same manner?

Wiley and Harnischfeger (1977) suggest that not only personnel, but instructional time within a school might be reallocated from "soft" subjects to "basics." Making the school publicly responsible for test results, as opposed to the student's being privately held accountable, seems like a sensible and economically parsimonious way to make such reallocation happen.

E. State agencies should reward good performance. One of the fundamental tenets of behavior modification theory holds that to obtain desired behavior one should ignore undesirable behavior and reward the behavior which one wishes to see become more frequent. A corollary is that when poor performance or bad behavior is given attention, it tends to persist. A similar theory in economics holds that one should provide incentives for activity which is desired and disincentives for behavior which is not sought.

The compensatory education programs at state levels are emerging in precisely the wrong direction. Like the parent who pays attention to a misbehaving child, and who gets more misbehavior as a result, the state programs to help students who are performing poorly are going to get worse performance, not better, from the object of their good will.

Consider the sums of money involved -- 70 million dollars in New Jersey, for example. As McLaughlin notes in regard to Title I,... "You couldn't just turn off the spigot on a 1.5 billion dollar program. Think of the number of jobs Title I supports at the local level....it is widely acknowledged that no congressman wants the program in his community phased out or the program in his district shut down" (1974, p. 68). Neither will a state be able to shut off these funds once they are in place -- to be against the poor underachievers in our schools? To destroy all those important jobs? Politically impossible.

The reasoning here is simply that provision of rewards for success seems sensible (see Pincus, 1973) and the surest way to eliminate the side effects of monitoring, empire-building, and politicalization of schooling that has accompanied Title I at the federal level.

The major objection to such a recommendation is that it will divert money away from the poor. Categorical aid such as Title I, and probably also unrestricted aid such as Title V provided for State Education agencies (Murphy, 1973) do not seem to have a very noticeable impact on results. They do not help the poor. Such programs have perhaps served to relieve our collective social conscience since aid supposedly went to the poor and to "weak" state education departments. However, if one can assimilate three important possibilities: (1) that the programs have not worked, (2) that they have not led to changes in education systems and (3) that innovation often comes in times of relative deprivation, then it makes sense to consider payment for results rather than for non-performance.

F. States should move immediately to reduce financial inequities between school districts with mechanisms other than compensatory education programs. This is another call for the reform of school finance. Schools are soon to consume over 8% of the gross national product. It is foolish to leave the financing of such a large and important sector of our economy to the capricious funding arrangements which now hold it together.

It is already obvious that increased federal and state funding is needed to keep our schools in operation. In the period 1953 to 1974, federal funds have risen from 4.5 to 9.2% of public elementary expenditures. State funds have risen from 37.4% to 40.5% in the same period (Thomas and Larson, 1976). We may as well acknowledge that more state and federal money is going to be required and decide to use it in the most effective manner possible.

In the area of basic competencies, that manner would be twofold: reduce financial inequities between districts, and with separate money, reward school districts for good performance. The administrative and teaching talents in the schools will then be free to

teach and administer in the most effective manner known to them. They will be released from the fear of losing support for compensatory programs that don't work, but whose funds are necessary for the protection of jobs.

One might argue that this financial structure would divert money from the poor to the rich. Initially, this might be so, although a scheme of payment for results could well be built such that districts might receive larger payments for success than districts with high quality students, thereby "equalizing" payment. It is more important to note that the poor are not benefiting from existing programs in notable ways and that the money thus benefits not the poor but the middle class teachers and administrators who are hired with the funds, to say nothing of a whole taxpaying population which may be able to reduce its tax burden by substituting "targeted" federal money for increased tax effort.

G. Avoid the temptation to have the federal government do the testing. It is true that the federal government could take advantage of economies of scale mentioned earlier, however, this would reduce the variety in the item pool and in the way in which assessment programs were implemented. To do this at a point when testing programs are in such a primitive state of development would be an error.

Notes

1. The evidence on this point is unclear. Tyler, for instance, points out that,

> "Few (adults) remember that at the time of WW I an equivalent to our nine year old test of reading comprehension was administered to the draftees; only about 45% of the 17 and 18 year olds could read at that level. Now about 80% of them can. Even in WW II only about 65% of this group could read. So we've been moving ahead, reaching a larger and larger proportion of the population. But the public often expects 100%, and this is an unreasonable expectation. We are not likely to realize it in another 15 or 20 years, if ever." (Cited in Ryan et al., 1977.)

Wiley and Harnischfeger (1977) also point out that achevement, at least in the early grades, appears to be on the rise. So does Ahmann (1976) in his review of National Assessment of Educational Progress results.

The discrepancy between these "facts" and the emotion surrounding the move to improve competencies in the basic skills has been captured by Brodinsky (1977), who suggests that nostalgia, a whetted appetite for accountability and a return to conservatism may lie behind the movement. He also notes the influence of complaints from colleges and from employers, in regard to the abilities of students. These, however, are not new. A 1977 issue of Interchange devoted to the "back to basics movement" contains complaints of similar nature dating back to 1835 on its frontispiece. Finally, Brodinsky points out that professional schoolmen have taken on such a wide array of responsibilities that they are ill-prepared to defend themselves against a concerted attack aimed at one area of the school curriculum.

2. A telephone survey of people thought to be studying the impact of minimal competency legislation was conducted. At the time of writing, the following people have kindly given of their time by speaking with me and/or by commenting on an earlier draft of this paper.

Mr. John Adams
Council of Chief State School Officers

Mr. John Allan
Missouri State Department of Education

Mr. Vincent Calabrese
New Jersey State Department of Education

Mr. Dale Carlson
California State Department of Education

Mr. Ken Carlson
Rutgers University

Mr. Jerry Cavanaugh
Denver Public Schools

Mr. Robert Coldiron
Pennsylvania State Department of Education

Mr. Larry Conaway
Research Triangle Institute

Mr. David Donovan
Michigan State Department of Education

Mr. Gary Emanuel
Arizona State Department of Education

Mr. Tom Fisher
Florida State Department of Education

Mr. Roy H. Forbes
National Assessment of Educational Progress

Mr. John Fremer
Educational Testing Service

Mr. Carl Guerriero
Pennsylvania State Department of Education

Mr. E. W. Kelley
Cornell University

Mr. Steve Koffler
New Jersey State Department of Education

Mr. Bill Lahmann
Office of Program Research
House of Representatives
State of Washington

Mr. Winsor Lott
New York State Education Department

Mr. Frank Nelson
Oregon Educational Co-ordinating Commission

Mr. Chris Pipho
Education Commission of the States

Mr. James Popham
University of California - Los Angeles

Mr. Jack Schmidt
Education Commission of the States

Mr. Dwayne Slate
House Majority Caucus
State of Washington

Mr. Russ Vlaanderen
Education Commission of the States

3. It is likely that the public will respond to a "good" school system more favorably than to a bad one. Thus, the testing program needs to tread a thin line between affirmation of the things which schools are doing well and location of problems. All too easily a testing program can slide into a very negative role, with poor financial support from the public as one possible consequence.

4. However, some teachers may be gaining free time while others are administering tests. Not all teacher time on test days need be assigned to the testing program. Indeed, if volunteers or secretaries can be used, then no professional time should be charged to the testing program. It could, in fact, provide time for professional development.

5. Tuinman et al., (1972) report a study in which test scores of students went up as a result of paying the students to take the test. The authors complain about the morality of payment, neglecting to note the fact that if payment results in higher scores with no intervening teaching or practice effects, the first score was unreliable as a measure of the student's ability. Moreover, the scores seem to be systematically biased downwards -- the students do not tell us all that they know when they take a test. A number of other studies confirm this interpretation of the Tuinman data. This poses a large problem for people who would build the school system on a program of testing, for it means students do not take tests seriously. This simple point could invalidate the whole idea of extensive use of competency tests. More study of the possibility is required.

6. Denver has had minimum requirements for high school graduation for some seventeen years. The provinces of Alberta and Ontario in Canada have both dropped such requirements in the past seven years. Greensville has recently implemented a program (Owens & Ranick, 1977). The four sites, at least, could be used as data sources for "proper" cost-benefit studies. However, this would be a long term project of little current use.

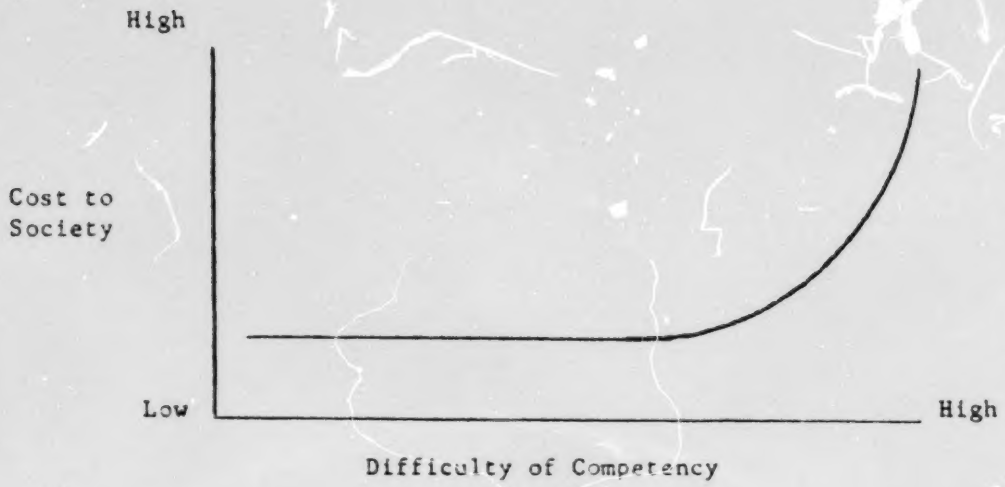

Figure 1

Probable Relationship Between Cost and Difficulty of Competency

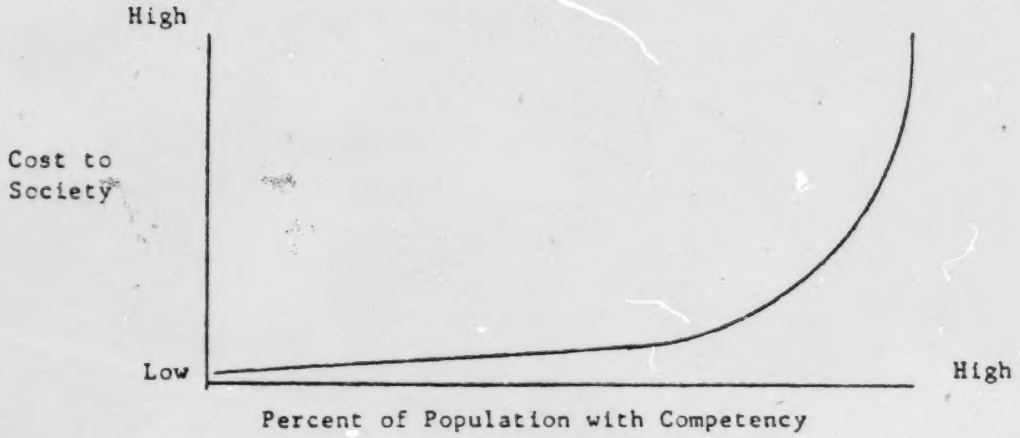

Figure 2

Probable Relationship Between Cost and Percentage of Society Required to Master a Competency

Table 1

A Summary of State Activity to June, 1977*

Legislation Enacted 1975 - 1976	State Bd. of Education Rulings 1975 - 1976	Legislation Pending and Failed 1977
1. California	1. Arizona	1. Alabama
2. Colorado	2. Georgia	2. Arizona
3. Florida	3. Delaware	3. Arkansas
4. Maryland	4. Michigan	4. California
5. New Jersey	5. Missouri	5. Florida
6. Virginia	6. Nebraska	6. Illinois
7. Washington	7. New York	7. Iowa
8. Louisiana	8. Oregon (1972)	8. Kansas
	9. Vermont	9. Louisiana
	10. Rhode Island	10. Maine
		11. Massachusetts
		12. Minnesota
		13. Nevada
		14. New Hampshire
		15. North Carolina
1977	1977	16. Ohio
		17. Pennsylvania
1. Maryland	1. Idaho	18. South Carolina
2. Nevada	2. Kentucky	19. Tennessee
	3. Maryland	20. Texas
	4. New Hampshire	21. Washington
	5. New Mexico	22. Mississippi
	6. Oklahoma	23. North Dakota

* From Pipho (1977b).

Table 2

Elements of Minimal Competency Testing Programs By State[1]

Statewide Assessment Programs Using Samples of Students (Grades)	Assessment of Each Student (Grades)	Testing Out of High School	Assessment of Students for Promotion (Grades)	Compensatory Programs for Schools or Students Who do not Meet Standards	Dismissal of Staff for Failure to Teach
Alaska (4-8)*		Alaska			
			Arizona 8+H.S.		
		California	California	California	
			Colorado (optional)	Colorado (if tests used)	
	Connecticut (not funded)				
Delaware (1,4,8)*					
	Florida (3,5,8,11)	Florida	Florida (3,5,8,11)	Florida	Florida (pending)
Georgia (4,8,10,12)					
			Idaho (12) (Dist. Option)		
			Kentucky (Under Dev.)		
Louisiana*					
			Maryland(2-12)	Maryland	
	Michigan (4,7,10)			Michigan (not required but tied to assessment results)	
Missouri (8,10,12)	Missouri (8)				
	Nebraska (5) (Local Dist.)				
	Nevada (6 9,12)		Nevada (12)	Nevada	
	New Jersey (3,6,9,12)			New Jersey	
	New Mexico (10 + 1 other)				
	New York (9)		New York (12)	New York	
Oklahoma(3,6,9,12)					
			Oregon (12) (Local Dist.)		

Table 2 (Cont.)

Statewide Assessment Programs Using Samples of Students (Grades)	Assessment of Each Student (Grades)	Testing Out of High School	Assessment of Students for Promotion (Grades)	Compensatory Programs for Schools or Students Who do not Meet Standards	Dismissal of Staff for Failure to Teach
Rhode Island(4,8,11)					
			Vermont (12)		
	Virginia			Virginia	
	Washington(K-8) (Local Dist.)				
Washington (8,11)	Washington (4)				

* May Test All Students

[1]Adapted From Pipho (1977b)

Table 3

Types of Regulatory Costs

I. Set-up Costs of Legislation

Bargaining, hearings, studies, other information acquisition

II. Implementation Costs

A. Information costs to regulatory agency in deciding how to implement the law (e.g., hearings, research, reports, etc., that precede the setting of standards)

B. Information costs to regulatees in determining what is required of them

C. Administrative, record-keeping, and reporting expenses to regulatees in complying

D. Enforcement or policing cost to regulators

1. Information costs in discovering policing difficulties and ways to cope with them

2. Inspections

3. Metering

4. Devising forms for required reports

5. Checking reports

6. Other ways of detecting violations, including use of state or local personnel and policemen

7. Communication with regulatees and violators

8. Decision-making costs to regulator in choosing whom to prosecute, procedural changes, etc.

9. Handling injunctions, arrests, administrative hearings, appeals, litigation

10. Legislative oversight follow-up

11. Punishment costs

a. Administrative costs of collecting fines or meting out other punishment

b. Output loss due to jail terms (if any)

12. Other enforcement costs

a. Undesirable repercussions from any induced bribery or corruption

b. Undesirable repercussions from increased size of bureaucracy (and, if performance is poor, increased cynicism about government)

E. Avoidance costs to regulatees

1. Information cost in finding out the avoidance possibilities and loopholes

2. Decision-making costs of deciding what to do

3. Extra legal and clerical staff (or consultants)

4. Bargaining costs -- efforts to influence or "capture" the regulatory agency

5. Lobbying costs -- efforts to get law changed

6. Litigation costs

7. Research and other information cost in connection with bargaining and lobbying

8. Advertising and public-relations costs in connection with bargaining and lobbying

III. Excess Burdens from Compliance

These are the welfare losses thrust upon producers and consumers by the regulations (i.e., the conventional costs, such as anti-pollution scrubbing equipment or welfare losses from banned products, that have been most publicized).

IV. Induced Neglect of Information (If Any)

Examples include discouraging of R & D (but should not be counted as one of excess burdens if counted here); deterrence of occupational disease reporting if employers fear proliferation of standards or regulatory legislation; erosion of consumers' incentives to acquire and utilize information if consumers believe government is protecting them from hazards.

V. Foregone Citizen Monitoring of Other Public Policies

As citizens' monitoring efforts get spread out more thinly over a growing volume of government activity, public actions may become increasingly responsive to special interests. (Foregone legislative attention to other policies is presumably counted in the set-up costs of legislation and the oversight follow-up costs.)

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Appendix A-1

A SUMMARY DESCRIPTION OF STATE PROGRAMS WHICH REQUIRE THE USE OF MINIMUM STANDARDS *
(AS OF MARCH 15, 1977)

*From Noonan and Rubin, 1977

STATE PROGRAMS		STANDARDS		LEVELS ASSESSED	SKILL AREAS					CERTIFICATION			EVALUATION		ACTION		
		STATE	LOCAL		READING	MATH	COMMUNICATIONS	LIFE SKILLS	OTHER	GRADUATION	PROMOTION	EARLY EXIT	SCHOOL/DISTRICT	STUDENT NEEDS	REMEDIATION	PROGRAM MODIFICATION	STATE AID ADJUSTMENTS
AZ[1]			X	8 & 12	X	X	X			X	X			X	X		
CA	EARLY EXIT	X		16-17 yr. olds	X	X	X		X			X					
[2]	GRADUATION		X	7-9; 10-11	X	X	X		O	X				X	X		
CO[3]			O	9 - 12						O					X		
FL[4]	GENERAL	X	X	3, 5, 8, & 11	X	X	X			X	X		X	X	X	X	
[5]	EARLY EXIT	X		- - - - -					X			X					
GA	GENERAL	X		4, 8, & 11	X	X	X						X			X	
[6]	PROMOTION	X		4	X						T			X	X		
[7]	GRADUATION		T	9 - 12	T	T	T	T	T	T							
ID[8]		O		9 - 12	X	X	X			Θ					X		
LA[9]		X		4, 8, & 11	X	X	X						X			X	
MD[10]	GENERAL	X		3, 7, & 11	X						X		X	X	X	X	
	GRADUATION	T		- - - - -	T	T	T	T		T							
MI[11]		X		4, 7, & 10	X	X							X	X	X	X	X
MO		X		8 - 12	X	X	X		X	T							
NE[12]		O	O	5 to mastery	X	X	X		X					X	X		
NJ		X		4, 7, & 10	X	X							X	X	X	X	X
NY		X		9 - 12	X	X	X		X	X				X	X		
OR			X	Loc. option	X	X	X	X	X	X				X			
VT			X	Continuous	X	X	X		X	X				X	X		
VA			X	9 - 12	X	X	X		X	X							

KEY TO SYMBOLS:

X - Requirement clearly defined by policy or law.

O - Local option as defined by state policy or law.

T - Requirement that has been tentatively approved but has not been finalized by law or policy statement.

EXPLANATION OF TERMS IN MATRIX

In order to categorize the various aspects of the developed state programs the following general terms were used in the matrix presented in Appendix A-1.

Minimum Standard refers to a level of competency defined by a state or local agency through the use of a uniform assessment instrument, for the purpose of certification of students for promotion or graduation, for identifying children who are in need of remediation and/or for the evaluation of district and school programs. States that assess merely general "objectives" (such as Washington and Rhode Island) or even "minimum objectives" (Virginia) will not be considered as having "minimum standards" in this strict sense because they do not require or define a specific minimum cut-off point.

State and Local Standards. The above strict definition of minimum standards limits the definition of state minimum standards to those states that have state testing with a state defined minimum. All other programs (even those with state defined performance indicators) are considered local because the determination of the minimum cut-off point is left to the judgment of local districts.

Levels Assessed. All numbers in the third column of the matrix refer to grade levels except where years (yrs.) is indicated.

Skill Areas. Communication includes the basic skills listed in the state programs as language arts, speaking and listening. Life skills refers to the "life competencies" or "life roles" orientation to minimum standards that attempts to define standards in terms of broad competencies needed for living in adult society rather than in terms of narrow academic skills. Those states, such as New York and Missouri, which merely try to test reading and mathematics by using "life skills" items were not considered as having a full life skills program. Other areas include skills as reasoning and inquiry skills and content areas such as government and American History.

Evaluation and Action. Evaluation refers to use of minimum standards merely to assess individual student needs or to measure the performance of schools or districts in terms of such student minimums. Action refers to specific financial or general educational measures that must be taken to improve the educational performance of students who fall below minimum standards.

EXPLANATORY NOTES

[1]Arizona requires a ninth grade reading level for high school graduation and sixth grade proficiency in reading, writing and mathematics to enter the ninth grade. Local districts, however, have complete discretion in establishing their standards and assessment procedures.

[2]Local districts must assess students once in grades 7 through 9 and twice in grades 10 and 11.

[3]Colorado does not require the use of minimum proficiency standards but requires districts that do set such standards to begin assessment in the ninth grade and to provide remediation.

[4]Graduation requirements in Florida will be based on statewide minimum standards and measured by the state's 11th grade Functional Literacy Test. Local districts will also set minimum standards for promotion for grades 3, 5, and 8 that will be based on state standards and state tests. At present the state department plan is to use state tests in the fall to identify students who fall below state minimum standards. After remediation has been provided, local testing will be used at the end of the school year to determine whether a student has overcome the designated deficiencies and may be promoted to the next grade.

[5]The Florida early exit graduation program is based upon the General Education Development Examination, local subject area tests or a demonstration by some other means of a readiness to engage in post-secondary level academic work.

[6]The Georgia State Board of Education has required the State Department of Education to evaluate the feasibility of using the state fourth grade reading test to establish a minimum standard for promotion to the fifth grade. The Department plans to recommend that the standard be used to identify students for remediation and not for promotion.

[7]In 1977-78 Georgia will pilot a program of competency based graduation requirements to determine the feasibility of such a program. The plan is to provide a "certificate of performance" to those students who have met all or some of the competency requirements (even if they do not meet other graduation requirements).

[8]Beginning in the fall of 1978, local school districts in Idaho will have the option of using a statewide proficiency testing program to establish graduation qualifications. Students who pass all parts of the test will have a State Department of Education seal placed on their diplomas, but no student will be denied a diploma on the basis of the test.

[9]The Louisiana law requires the eventual testing of all grade levels. The law, however, is severely limited by a clause which excludes a large number of parishes from its mandate.

[10]The Athey Law in Maryland requires that the State Board of Education establish progressively advanced minimum reading levels for grades two through twelve. For grades two through seven students who have not met the reading level for the previous grade shall be either retained in the current grade or enrolled in an appropriate reading assistance program. No student, however, shall be held back more than once on the sole basis of these standards. A recent modification of the law (1977) now requires testing only in grades 3, 7 and 11.

[11]After July 1, 1978 students in Missouri will be required to take a competency test in basic skills, however, the state has not yet decided whether to make the passing of the test a graduation requirement or to issue a "certificate of competency" to students passing the test.

[12]Local districts in Nebraska must establish minimum performance level in basic skills: they have the op ion of using either an instrument provided by the state or locally developed (state approved) instrument. Most districts use the state test. Testing begins in the fifth grade, and each student continues taking the test until he has achieved mastery. Those districts that use the state test must use state standards.